



SECTION A-8, CONSTRUCTION

A-8.0 CONSTRUCTION

The construction component of this Local Implementation Plan (LIP) is composed of the following elements:

1. **Section A-8.1**, Program Summary
2. **Section A-8.2**, Model Construction Program
3. **Section A-8.3**, Education and Training

A-8.1 PROGRAM SUMMARY

A-8.1.1 Program Overview

Construction and grading activities are a potential source of pollutants. This section presents a detailed set of guidelines to prevent or minimize the impacts of urban runoff generated by construction activities within the City of Irvine on receiving water bodies.

This section outlines and describes the City departments involved in issuing building and/or grading permits for private development projects and responsible for inspecting these projects during construction, or managing public works construction projects that have a potential to impact water quality.

Community Development Department

Contact Name: Eric Tolles

Title: Chief Building Official

Telephone: (949) 724-6453

Address: One Civic Center Plaza, Irvine, CA 92623-9575

Public Works Department

Contact Name: Dave Mori

Title: Project Development Administrator

Telephone: (949) 724-7553

Address: 6427 Oak Canyon, 92618 - P.O. Box 19575, Irvine, CA 92623-957

The Community Development Department is responsible for implementing the policies and objectives of the community as set forth in the municipality's General Plan and Zoning Ordinance. This Department also reviews proposed developments for consistency with the City's standards and policies relating to land use, and preservation of the environment, to ensure that the quality of life will be maintained or enhanced for future generations.



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Community Development Department

Contact Name: Tim Gehrich

Title: Manager of Planning and Development Services

Telephone: (949) 724-6363

Address: One Civic Center Plaza, Irvine, CA 92623-9575

The City Engineer's office is responsible for the administration of public improvement projects (typically result in construction activity). The City Engineer ensures all construction in the public right-of-way complies with adopted codes and engineering standards.

Public Works Department

Contact Name: Mark Carroll

Title: City Engineer

Telephone: (949) 724-6410

Address: One Civic Center Plaza, Irvine, CA 92623-9575

A-8.1.2 Program Commitments

The major program commitments and the subsections in which they are described in detail include:

- Maintain/update inventories of construction projects (**A-8.2.2**);
- Prioritize fixed facilities, construction projects (**A-8.2.3**);
- BMPs for construction projects (**A-8.2.4**);
- Documentation requirements (**A-8.2.5**);
- Inspection and enforcement (**A-8.2.6**); and
- Education and training (**A-8.3**).

A-8.1.3 Regulatory Requirements

The Model Construction Program was developed to fulfill the municipal activity commitments and requirements of:

- **Section XV of the MS4 Permit (Order No. R8-2009-0030).**



A-8.2 CONSTRUCTION PROGRAM

A.8.2.1 Program Overview

The City has incorporated the model construction program described in **DAMP Section 8.2** as the basis for this section of the LIP. This construction program presents requirements and guidelines for pollution prevention methods that must be used by construction site owners, developers, contractors, and other responsible parties, in order to prevent illicit discharges into the municipal storm drain system, implement and maintain structural and non-structural BMPs to reduce pollutants in storm water runoff discharged to the municipal storm drain system from construction sites, reduce construction site discharges of storm water pollutants from the municipal storm drain system to the maximum extent practicable (MEP), and prevent construction site discharges from the municipal storm drain system from causing or contributing to a violation of water quality standards in the receiving waters.

A-8.2.2 Inventory of Construction Sites

An inventory of all construction sites has been developed. This includes all sites meeting the definition of a construction project provided in **DAMP Section 8.1.5**, including those covered by the State's Construction General Permit¹, a local grading permit or a local building permit, and public works construction projects, and where activities at the site include: soil movement; uncovered storage of materials or wastes, such as dirt, sand or fertilizer; or exterior mixing of cementaceous products, such as concrete, mortar or stucco.

The City of Irvine's comprehensive construction site inventory is included in **Exhibit A-8.1**. This inventory, will at a minimum, be updated semiannually; once in September and the second update in May. During the update process, projects for which building or grading permit(s) have expired or have been closed, and projects that have been completed, will be removed from the inventory. New projects will also be added to the inventory as they are initiated. A GIS map showing the location of the construction projects inventoried and their proximity to environmentally sensitive areas has also been included in **Exhibit A-8.2**.

A-8.2.3 Prioritization of Construction Sites

After the inventory is compiled, construction projects are prioritized into high, medium, or low categories, based on the threat to water quality and the procedures set forth in

¹ State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity
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DAMP Section 8.2.3. Priorities will, at a minimum, be updated twice a year in conjunction with the semiannual update of the inventory.

A-8.2.4 BMPs for Construction Projects

All construction projects, regardless of size or priority, are required to include the implementation of BMPs to prevent discharges into the municipal storm drain system or watercourses. **DAMP Section 8.2.4.1** specifies minimum requirements for all projects and specific site management requirements for high and medium priority projects.

All private and public works construction projects are required, at a minimum, to implement and be protected by an effective combination of erosion and sediment controls and waste and materials management BMPs. The minimum requirements are summarized in **Table 8-6** of the DAMP (also shown below). These minimum requirements are conveyed to construction contractors as part of the permit conditions and plan notes.

Table A-8.1
Minimum Requirements for All Construction Sites

CATEGORY	MINIMUM REQUIREMENTS
Erosion and Sediment Control	Sediment from areas disturbed by construction shall be retained on site using an effective combination of erosion and sediment controls to the maximum extent practicable, and stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.
Waste and Materials Management Control	Construction-related materials, wastes, spills or residues shall be retained on site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.

Construction BMPs

The City of Irvine has designated construction-specific BMPs as set forth in **DAMP Section 8.2.4.3. Table A-8.2**, below describes the BMPs designated for use with this LIP. Copies of the corresponding BMP fact sheets are included as **Exhibit A-8.3**.



**Table A-8.2
Designated Construction BMPs**

CATEGORY	BMP #	BMP NAME
Erosion Control BMPs	EC-1	Scheduling
	EC-2	Preservation of Existing Vegetation
	EC-3	Hydraulic Mulch
	EC-4	Hydroseeding
	EC-5	Soil Binders
	EC-6	Straw Mulch
	EC-7	Geotextiles and Mats
	EC-8	Wood Mulching
	EC-9	Earth Dikes and Drainage Swales
	EC-10	Velocity Dissipation Devices
	EC-11	Slope Drains
	EC-12	Streambank Stabilization
	EC-13	<i>Reserved</i>
	EC-14	Compost Blanket
	EC-15	Soil Preparation/Roughening
	EC-16	Non-Vegetative Stabilization
Sediment Control BMPs	SE-1	Silt Fence
	SE-2	Sediment Basin
	SE-3	Sediment Trap
	SE-4	Check Dam
	SE-5	Fiber Rolls
	SE-6	Gravel Bag Berm
	SE-7	Street Sweeping and Vacuuming
	SE-8	Sandbag Barrier
	SE-9	Straw Bale Barrier
	SE-10	Storm Drain Inlet Protection
	SE-11	Active Treatment Systems
	SE-12	Temporary Silt Dike
	SE-13	Compost Socks and Berms
	SE-14	Biofilter Bags
Wind Erosion Control BMPs	WE-1	Wind Erosion Control
Tracking Control BMPs	TC-1	Stabilized Construction Entrance/ Exit
	TC-2	Stabilized Construction Roadway
	TC-3	Entrance/Outlet Tire Wash



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**Table A-8.2
Designated Construction BMPs**

CATEGORY	BMP #	BMP NAME
Non-Stormwater Control BMPs	NS-1	Water Conservation Practices
	NS-2	Dewatering Operations
	NS-3	Paving and Grinding Operations
	NS-4	Temporary Stream Crossing
	NS-5	Clear Water Diversion
	NS-6	Illicit Connection/Illegal Discharge Detection and Reporting
	NS-7	Potable Water/Irrigation
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	NS-11	Pile Driving Operations
	NS-12	Concrete Curing
	NS-13	Concrete Finishing
	NS-14	Material and Equipment Use Over Water
	NS-15	Structure Demolition/Removal Over or Adjacent to Water
	NS-16	Temporary Batch Plants
Waste Management & Materials Pollution Control BMPs	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-4	Spill Prevention and Control
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-7	Contaminated Soil Management
	WM-8	Concrete Waste Management
	WM-9	Sanitary/ Septic Waste Management
	WM-10	Liquid Waste Management

A-8.2.5 Documentation Requirements

The City of Irvine has adopted the documentation requirements provided in **DAMP Section 8.2.5**. These requirements apply equally to private development and public works projects.

Requirements for Construction General Permit Sites

Construction sites that are subject to the Construction General Permit are required to include the implementation of a Storm Water Pollution Prevention Plan (SWPPP) meeting the requirements of the Construction General Permit. A Model SWPPP



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Template has been included as **Exhibit A-8.4** as a guide for the information that should be included in a SWPPP.

Private Construction Projects Covered by the Construction General Permit

The following bullets describe the process that is followed during a private construction project:

- The project owner, developer or contractor is responsible for preparing the Notice of Intent (NOI), which must be signed by the owner or person delegated authority and submitted to the State Water Resources Control Board (SWRCB) via the Stormwater Multi-Application, Reporting, and Tracking System (SMARTS). Before issuing a grading or building permit, the City will require proof of General Permit coverage (See conditions of approval **Section A-7.5.3**).
- Once the project owner, developer or contractor receives a grading or building permit (if applicable), the SWPPP must be prepared by Qualified SWPPP Developer (QSD), and must be implemented year-round throughout the duration of the project's construction. County, District or City staff are not responsible for reviewing, approving or enforcing the SWPPP; these are responsibilities of the Regional Board. Inspector(s) may choose to use the SWPPP as a tool for on-site inspections.
- The City will inspect and enforce local permit(s) and ordinances, and will notify the Santa Ana Regional Board of non-compliance when the non-compliance meets the criteria of posing a threat to human or environmental health as discussed in **DAMP Section 8.4.6**.
- Within 90 days of when construction is complete or ownership has been transferred, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the SWRCB SMARTS system. Filing a NOT certifies that all General Permit requirements have been met.

Public Agency Construction Projects Covered by the Construction General Permit

The following bullets describe the process that is followed during a public works construction project:

- The City of Irvine will prepare all Permit Registration Documents (PRDs) and submit it to the SWRCB through the **SMARTS** system.
- The SWPPP will be prepared by a QSD, before the contractor is allowed to start construction activities. It is important to note that city staff is not responsible for enforcing the SWPPP, these are responsibilities of the Regional Water Quality



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Control Board; but inspectors are required to become familiar with the SWPPP as it is part of the contract documents.

- During construction, the City of Irvine will inspect and enforce the contract documents and will notify the appropriate Regional Board when non-compliance meets the criteria of posing a threat to human or environmental health as discussed in **Section 8.2.6.7** of the DAMP.
- Once the project is completed, the City of Irvine will submit a NOT to the SWRCB.

Requirements for Other Sites

Private Construction Projects Not Covered by the Construction General Permit

Private construction projects not covered by the Construction General Permit, but covered under a grading permit, are required to include Erosion and Sediment Control Plans (ESCPs). These ESCPs must show proposed locations of the erosion and sediment control BMPs that will be implemented during the construction project to comply with the minimum requirements listed in **Table A-8.1**.

Public Works Construction Projects Not Covered by the General Permit

Public agency construction projects not covered by the General Permit are required by **DAMP Section 8.2.5.2** to comply with appropriate pollution prevention control practices in accordance with the current edition of the “Green Book” Standard Specifications for Public Works Construction and the provisions of Section A-8, and shall develop and implement ESCPs. Low priority construction sites shall meet the minimum requirements listed in **Table 8-7** of **DAMP Section 8.2.4.1**.

A-8.2.6 Municipal Inspections and Enforcement

Inspection Responsibilities

The City of Irvine performs inspections of construction sites to verify the requirements in **DAMP Section 8.2.6** are being implemented and maintained, they appropriately comply with local permits and ordinances and the General Permit, and they continue to protect water quality. Construction sites are inspected, according to the established priority, until construction activity is complete.

Inspection Frequencies

The City of Irvine City inspects construction sites based upon the priority of the project. The frequency of construction site inspections is shown in **Table A-8.3**.



Table A-8.3
Inspection Frequency of Construction Projects
Based on Construction Site Priority

Construction Site Priority <u>See Section 8.2.3 of the DAMP for prioritization details</u>	Rainy Season Inspection Frequency (Oct 1 - April 30)	Dry Season Inspection Frequency (May 1 - Sept 30)
<p align="center">High</p> <p>The following sites are prioritized as mandatory high:</p> <ul style="list-style-type: none"> ▪ Any site 20 acres or larger ▪ Any site 1 acre or larger tributary to Clean Water Act Section 303(d) waters listed for sediment or turbidity impairments ▪ Any site, regardless of size, tributary to and within 500 feet of an area defined by the Ocean Plan as an Area of Special Biological Significance 	<p align="center">Once per month</p>	<p align="center">As Needed</p>
<p align="center">Medium</p> <p>All sites between 5 and 20 acres are prioritized, at a minimum as medium priority</p>	<p align="center">Twice during the season</p>	<p align="center">As Needed</p>
<p align="center">Low</p>	<p align="center">At Least Once during the season</p>	<p align="center">As Needed</p>
<p>* When BMPs or BMP maintenance is deemed inadequate or out of compliance, an inspection frequency of once every week will be maintained until BMPs and BMP maintenance are brought into compliance (regardless of site prioritization)</p>		

Inspection Documentation Procedures

The City of Irvine's construction site inspection checklist is included in **Exhibit A-8.5**. Records of all inspections and non-compliance reporting will be retained for a period of at least five years.



Enforcement Actions

Enforcement of construction projects will be undertaken by the City of Irvine’s inspectors and/or other staff who possess internal enforcement authority through established policies and procedures. Threats to water quality will be assessed by inspectors for construction site runoff that will not be reasonably controlled by the BMPs in place or if a failure of BMPs is resulting in the release of sediments or other pollutants. Violations observed will be documented by the inspectors.

If a significant and/or immediate threat to water quality is observed by an inspector, action will be taken to require the developer/contractor to immediately cease the discharge. **Table A-8.4** outlines the City of Irvine’s enforcement steps that will be taken by inspectors for private construction projects and for public works construction projects. Depending on the violation, the inspector may choose to utilize contract language, a local permit, the grading ordinance or the water quality ordinance as the basis for enforcement.

**Table A-8.4
Enforcement Actions for Construction Problems**

PRIVATE CONSTRUCTION PROJECTS		PUBLIC WORKS CONSTRUCTION PROJECTS
Verbal Warning	← WARNING PROGRESSION	Verbal Warning
Written Warning <ul style="list-style-type: none"> ▪ Notice of Non-Compliance ▪ Administrative Compliance Order ▪ Administrative Citations or Fines ▪ Cease and Desist Order 		Written Warning <ul style="list-style-type: none"> ▪ Notice of Non-Compliance
Stop Work Order		Enforcement of Contract <ul style="list-style-type: none"> ▪ Stop Work Order ▪ Withholding of Payment ▪ Bond ▪ Fines ▪ Revocation of Contract
Revocation of Permit(s) and/or Denial of Future Permits		
Civil and Criminal Court Actions		Civil and Criminal Court Actions



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City of Irvine approved enforcement forms used by inspection staff are provided in **Exhibit A-8.6**.

Non-Compliance Reporting

The City of Irvine will consider a site non-compliant when one or more violations of local ordinances, permits, or plans exist on the site. For the purpose of this LIP, such a violation shall also be considered a violation of the Construction General Permit for sites subject to those requirements. If a non-compliant private construction project meets the criteria of posing a threat to human or environmental health as discussed in of the **DAMP Section 8.2.6.7**, then the appropriate Regional Board will be notified as required.

Oral notification to the Regional Board of non-compliant private construction sites that are determined to pose a threat to human or environmental health will be provided within 24-hours of the discovery of non-compliance. Such oral notification shall be followed up by a written report and submitted to the within 5 days of the incidence of non-compliance. Written notification(s) will identify the type(s) of non-compliance, describe the actions necessary to achieve compliance, and include a time schedule, subject to the modifications by the indicating when compliance will be achieved.

A form for evaluating the potential impacts to human or environmental health is provided in **Exhibit A-8.7**.

A-8.3 EDUCATION AND TRAINING

To assist responsible municipal staff and contract staff in understanding the DAMP's Model Construction Program, annual training sessions will be conducted. In addition to Permittee sponsored training, staff may also attend training seminars or workshops related to general water quality and stormwater management during construction, conducted by other organizations. Required training for municipal employees is included in **Table A-3.2** of this LIP.

A-8.3.1 Training Modules

To support implementation of the Construction Program element, two construction activity training modules were developed during the Third Term Permits as described in DAMP Appendix B, Section B-8. The two modules are *Municipal Activities Program Management* (**DAMP Appendix B, Exhibit B-8.I**) and *Inspecting Construction Site BMPs* (**DAMP Appendix B, Exhibit B-8.II**). The modules will be substantially updated in 2010-11 to reflect the requirements of the MS4 Permit.